

In re Application of: Wagener et al.  
Confirmation No: 1454  
Application No.: 10/718,764  
Examiner: PENG, Kuo Liang  
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**Amendments to Claims:**

This listing of claims will replace all prior versions and listings of claims in the instant application:

**Listing of Claims:**

Claims 1-6 (Cancelled).

7. (Withdrawn) The molecule of claim 1, wherein the molecule comprises at least two polymers each comprising the structure:

$A_x-B_y$

wherein the at least two polymers are internally crosslinked via at least one Si-O-Si linkage.

8. (Withdrawn) The molecule of claim 7, wherein the molecule comprises the structure of compound 4.

Claims 9-12. (Cancelled)

13. (Withdrawn) The molecule of claim 9, wherein the molecule comprises at least two polymers comprising the structure:

$A_x-B_y-C_z$

wherein the at least two polymers are internally crosslinked via at least one Si-O-Si linkage and chain-end crosslinked.

14. (Withdrawn) The molecule of claim 13, wherein the molecule comprises the structure of compound 8.

15. (Withdrawn) The molecule of claim 13, wherein the molecule comprises the structure of compound 11.

16. (Withdrawn) A method of making the molecule of claim 1, the method comprising the steps of:

- (a) preparing a reaction mixture comprising a carbosiloxane monomer, a carbosilane monomer, and an ADMET catalyst; and
- (b) placing the reaction mixture under conditions that result in the production of the molecule of claim 1.

17. (Withdrawn) The method of claim 16, wherein the reaction mixture comprises the carbosilane monomer and the carbosiloxane monomer in a molar ratio of between about 1:5 and 1:100.

18. (Withdrawn) The method of claim 17, wherein the molar ratio is less than about 1:7.

19. (Withdrawn) The method of claim 16, wherein the reaction mixture comprises the monomers and ADMET catalyst in a molar ratio of between about 1:1 and about 1:5000.

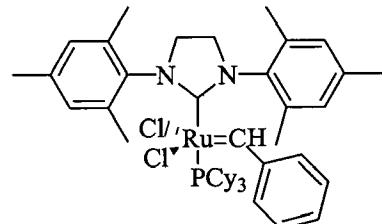
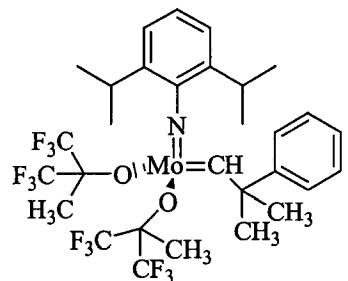
20. (Withdrawn) The method of claim 19, wherein the reaction mixture comprises the monomers and ADMET catalyst in a molar ratio of between about 1200:1 and about 100:1.

21. (Withdrawn) The method of claim 16, wherein the reaction mixture further comprises a chain-end crosslinking molecule.

22. (Withdrawn) The method of claim 21, wherein the reaction mixture comprises the carbosilane monomer, the carbosiloxane monomer, and the chain-end crosslinking molecule in a molar ratio of about 1-100:1-100:1-100.

23. (Withdrawn) The method of claim 21, wherein the carbosilane monomer and the chain-end crosslinking molecule comprise less than 20 mole percent of the reaction mixture.

24. (Withdrawn) The method of claim 16, wherein the catalyst is selected from:



25. (Withdrawn) The method of claim 16, wherein the step (b) comprises placing the reaction mixture under dry conditions.

26. (Withdrawn) The method of claim 16, wherein the step (b) comprises placing the reaction mixture in an argon atmosphere.

27. (Withdrawn) The method of claim 16, wherein the step (b) comprises subjecting the reaction mixture to a vacuum force.

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28. (Withdrawn) The method of claim 16, wherein the step (b) comprises adding heat to the reaction mixture.

29. (Withdrawn) The method of claim 25, wherein the step (b) results in the production of a non-cross-linked polymer.

30. (Withdrawn) The method of claim 29, further comprising exposing the non-cross-linked polymer to water to form a cross-linked polymer.

31. (Withdrawn) The method of claim 30, wherein the water is atmospheric moisture.

Claims 32 -34. (Canceled).

35. (Currently amended) A polymer comprising the structure:

$$\begin{aligned} & (\text{H}_3\text{CO})_3\text{Si}(\text{CH}_2)_w[(\text{CH}=\text{CH}(\text{CH}_2)_z\text{Si}(\text{R})_2(\text{CH}_a[\text{R}'''])\underline{\text{R}'''_{2-a}}_q\text{Si}(\text{R})_2(\text{CH}_2)_z)_n \\ & (\text{CH}=\text{CH}(\text{CH}_2)_y\text{Si}(\text{R}')_2\text{OSi}(\text{R}')_2(\text{CH}_2)_y)_m((\text{CH}=\text{CH}(\text{CH}_2)_x\text{SiR}''_r\text{R}'''_{2-} \\ & r(\text{CH}_2)_x)_o)_p((\text{CH}_2)_w\text{Si}(\text{OCH}_3)_3 \end{aligned}$$

wherein R is a latent reactive group selected from the group consisting of hydrogen, alkoxy, phenoxy, and halogen; R' is selected from the group consisting of C<sub>1</sub> to C<sub>18</sub> alkyl, phenyl, hydrogen, halogen, alkoxy, and phenoxy; R'' is methyl; R''' is selected from the group consisting of methyl, (CH<sub>2</sub>)<sub>x</sub>CH=CH<sub>2</sub> and (CH<sub>2</sub>)<sub>x</sub>CH=, wherein (CH<sub>2</sub>)<sub>x</sub>CH= is a branching site whereby adjacent polymers are cross-linked; R'''' is independently selected from the group consisting of methyl, alkoxy, alkylamino, dialkylamino, and 3,5-

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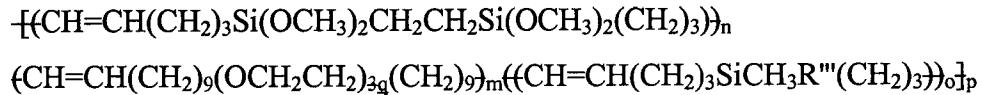
(dimethoxymethylsilyl)phenyl; a is 0 to 2; m and n are independently 1 to 100,000; o is 0 to 1; p is 1 through 100,000; q is 2 to 18; and w, x, y, and z are independently 2 to 16,

wherein R is methoxy; and,

wherein R" is methyl, R"" is selected from the group consisting of  $(CH_2)_xCH=CH_2$  and  $(CH_2)_xCH=$ , wherein  $(CH_2)_xCH=$  is a branching site whereby adjacent polymers are cross-linked; r is 1; and,

wherein R''' is methoxy; o is 0; and s is 1.

36. (Previously presented) A polymer comprising the structure:



wherein, m and n are independently 1 to 100,000; o is equal to or greater than 1; q is 2 through 20 and p is 1 through 100,000.